

Abstract:

This work determines on the basis of literature according to its objectives the definition of the debris flows, an overview of their types and description of the genesis and morphology. Debris flows are mass movements with high rate of speed, caused by atmospheric conditions (intense precipitation, melting snow) or geomorphological events (sudden burst of water pockets, burst of moraine or ice dammed lakes) in mountainous areas that move down the valley along torrential channels or along slopes and pull down everything in their path. We distinguish between structural and turbulent debris flows. In case of structural ones the water is creating an envelope of the debris. Their genesis is conditioned by supersaturation of weathered soil with water and the movement is created by gravity. The turbulent debris flows are formed by water which is not able to be absorbed and the water pulls down the debris on slopes and in the channels. Material is transported in suspension. I compared some debris flows from different mountains and it is quite complex to define specific values of parameters that cause debris flows. Structural debris flows in this study originated on rocks with a high content of micas or on sandstones. Turbulent debris flows originated on granitoids. Precipitation should have higher intensity than 20 mm/h. This work also contains examples of debris flow events in the mountains of Central Europe and looks into the problem of climatic changes.